



## ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

### INDIVIDUAL PERMIT PROPOSED FINAL

Permit Number: AK0021555

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Wastewater Discharge Authorization Program**  
**555 Cordova Street**  
**Anchorage, AK 99501**

In compliance with the provisions of the Clean Water Act (CWA), 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, this permit is issued under provisions of Alaska Statutes (AS) 46.03; the Alaska Administrative Code (AAC) as amended; and other applicable State laws and regulations. The

#### **CITY OF KODIAK**

is authorized to discharge from the City of Kodiak Wastewater Treatment Facility (WWTF) at 2853 Spruce Cape Road, Kodiak, Alaska at the following location(s):

| <b>Outfall</b> | <b>Receiving Water or Body</b> | <b>Latitude</b>   | <b>Longitude</b>  |
|----------------|--------------------------------|-------------------|-------------------|
| 001            | Woody Island Channel           | 57° 48.172" North | 152° 20.919" West |

In accordance with the discharge point(s) effluent limitations, monitoring requirements, and other conditions set forth herein:

This permit and authorization shall become effective **DRAFT**

This permit and the authorization to discharge shall expire at midnight, **DRAFT**

The permittee shall reapply for a permit reissuance on or before **DRAFT**, 180 days before the expiration of this permit if the permittee intends to continue operations and discharge(s) at the facility beyond the term of this permit.

The permittee shall post or maintain a copy of this permit to discharge at the facility and make it available to the public, employees, and subcontractors at the facility.

**DRAFT**

\_\_\_\_\_  
Signature

**DRAFT**

\_\_\_\_\_  
Printed Name

**DRAFT**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Program Manager

\_\_\_\_\_  
Title

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## SCHEDULE OF SUBMISSIONS

The Schedule of Submissions summarizes some of the required submissions and activities the permittee must complete and/or submit to the Alaska Department of Environmental Conservation (DEC or the Department) during the term of this permit. The permittee is responsible for all submissions and activities even if they are not summarized in the table below.

**Table 1: Schedule of Submissions**

| Permit Part                 | Submittal or Completion                        | Frequency      | Due Date  | Submit to <sup>a</sup> |
|-----------------------------|--|----------------|---|------------------------|
| 1.3.2                       | Annual report of progress, compliance schedule | 1/year         | Within one year after the effective date of the final permit and annually thereafter.                       | Compliance             |
| 1.3.3 & 1.3.4               | Interim reports of progress                    | 2/permit cycle | As required.  | Compliance             |
| 1.3.5                       | Engineered wastewater treatment facility plans | 1/permit cycle | Within three years after the effective date of the final permit.  | Permitting             |
| 1.3.7                       | Request for approval to operate                | 1/permit cycle | Within five years after the effective date of the final permit.   | Permitting             |
| 1.6.1.2                     | Written approval of monitoring locations       | 1/permit cycle | Within 180 days after the effective date of the final permit.   | Permitting             |
| 1.6.6                       | Receiving water monitoring results             | 2/year         | Must be attached in the eDMR system with the DMR for the month following sample collection.                 | Compliance             |
| 1.7.6.1                     | Whole Effluent Toxicity Test Results           | 1/year         | Must be submitted with the DMR for the month following sample collection.                                   | Compliance             |
| 2.1.1                       | Quality Assurance Project Plan                 | 1/permit cycle | Submitted for review and approval within 120 days after the effective date of the final permit.             | Permitting             |
| 2.3.1                       | Operation and Maintenance Plan notice          | 1/permit cycle | Within 120 days after the effective date of the final permit.   | Compliance             |
| 1.4, 2.4.2, Appendix A, 1.3 | Application for Permit Reissuance              | 1/permit cycle | 180 days before expiration of the final permit.   | Permitting             |
| 2.5, Appendix A, 3.2        | Discharge Monitoring Report (DMR)              | Monthly        | Must be submitted electronically through the eDMR system, on or before the 15th day of the following month. | Compliance             |
| Appendix A, 3.4             | Oral notification of noncompliance             | As Necessary   | Within 24 hours from the time the permittee becomes aware of the circumstances of noncompliance.            | Compliance             |
| Appendix A, 3.4             | Written documentation of noncompliance         | As Necessary   | Within five days after the permittee becomes aware of the circumstances.                                    | Compliance             |

a) See Appendix A 1.1 for addresses

## **1.0 LIMITATIONS AND MONITORING REQUIREMENTS**

### **1.1 Discharge Authorization**

- 1.1.1 During the effective period of this permit, the permittee is authorized to discharge pollutants from outfall 001 specified herein to Woody Island Channel, within the limits and subject to conditions set forth herein. This permit authorizes discharge of only those pollutants resulting from facility processes, waste streams, and operations clearly identified in the permit application process.

### **1.2 Effluent Limits and Monitoring Requirements**

- 1.2.1 The permittee must limit and monitor discharges from outfall 001 as specified in Table 2. All values represent maximum effluent limits, unless otherwise indicated. The permittee must comply with effluent limitations in the table(s) at all times, unless otherwise indicated, regardless of monitoring frequency or reporting required by other provisions of this permit.
- 1.2.2 Discharge shall not cause contamination of surface or ground waters, and shall not cause or contribute to a violation of the Alaska Water Quality Standards (AAC) Title 18 (18 AAC 70), except if excursions are authorized in accordance with applicable provisions in 18 AAC 70.200 – 70.270 (e.g. variance, mixing zone).
- 1.2.3 The permittee must not discharge hazardous or toxic substances, or other chemicals, in toxic amounts that may impair designated uses or violate water quality standards of the receiving water.
- 1.2.4 The permittee must not discharge any floating solids, debris, sludge, deposits, foam, scum, or other residues that cause a film, sheen or discoloration on the surface of the receiving water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
- 1.2.5 The permittee must collect influent samples prior to the waste stream flowing into the first treatment unit of the wastewater treatment system.
- 1.2.6 The permittee must collect effluent samples from the effluent stream after the last treatment unit before discharge into receiving waters.
- 1.2.7 Influent and effluent samples must be collected during the same 24-hour period.

**Table 2. Outfall 001: Effluent Limits and Monitoring Requirements**

| Parameter  | Effluent Limits |                     |                  |                    |                      | Monitoring Requirements |                                 |                                |
|--|-----------------|---------------------|------------------|--------------------|----------------------|-------------------------|---------------------------------|--------------------------------|
|  | Daily Minimum   | Monthly Average     | Weekly Average   | Daily Maximum      | Units <sup>a</sup>   | Sample Location         | Sample Frequency                | Sample Type                    |
| Total Discharge Flow                               | N/A             | 4.7                 | N/A              | 6.2                | mgd                  | Effluent                | Continuous                      | Recorded                       |
| Biochemical Oxygen Demand (BOD <sub>5</sub> )      | N/A             | 30                  | 45               | 60                 | mg/L                 | Influent and Effluent   | 1/Week                          | 24-hour Composite <sup>c</sup> |
|  |                 | 800                 | 1,200            | 1,600              | lbs/day <sup>b</sup> |                         |                                 |                                |
| Total Suspended Solids (TSS)                       | N/A             | 30                  | 45               | 60                 | mg/L                 | Influent and Effluent   | 1/Week                          | 24-hour Composite              |
|  |                 | 800                 | 1,200            | 1,600              | lbs/day              |                         |                                 |                                |
| BOD <sub>5</sub> & TSS Minimum Percent (%) Removal | 85              |                     |                  |                    | %                    | Influent and Effluent   | 1/Month                         | Calculated <sup>d</sup>        |
| Fecal Coliform (FC) Bacteria                       | N/A             | 200 <sup>e</sup>    | 400 <sup>e</sup> | 800                | FC / 100 mL          | Effluent                | 1/Week                          | Grab                           |
| pH   | 6.5             | N/A                 |                  | 8.5                | SU                   | Effluent                | 5/Week                          | Grab                           |
| Dissolved Oxygen (DO)                              | 4.0             | N/A                 |                  | 17.0               | mg/L                 | Effluent                | 1/Week                          | Grab                           |
| Temperature  | N/A             |                     |                  | Report             | °C                   | Effluent                | 5/Week                          | Grab                           |
| Total Ammonia, as N                                | N/A             | 9.39                | N/A              | 19.09              | mg/L                 | Effluent                | 1/Month                         | 24-hour Composite              |
|  |                 | 250.6               |                  | 509.5              | lbs/day              |                         |                                 |                                |
| Enterococci Bacteria                               | N/A             |                     |                  | Report             | cfu / 100 mL         | Effluent                | 1/Month (May-Sept) <sup>f</sup> | Grab                           |
| Whole Effluent Toxicity                            | N/A             |                     |                  | Report             | TU <sub>c</sub>      | Effluent                | 1/Year                          | 24-hour Composite              |
| Copper <sup>g</sup>                                | N/A             |                     |                  | Report             | µg/L                 | Effluent                | 1/Month                         | 24-hour Composite              |
| Total Residual Chlorine (TRC)                      | N/A             | 0.0075 <sup>h</sup> | N/A              | 0.013 <sup>h</sup> | mg/L                 | Effluent                | 5/Week <sup>i</sup>             | Grab                           |

**Footnotes:**

- Units: mgd = million gallons per day, mg/L = milligrams per liter, lbs/day = pounds per day, cfu/100 mL = colony forming units per 100 milliliters, FC/100 mL = fecal coliform per 100 milliliters, SU= standard units, °C= degrees Celsius, TU<sub>c</sub> = toxic units, chronic, and µg/L = micrograms per liter.
- All loading limits calculated using design flow of 3.2 MGD. Loading in lbs/day = [(design flow in million gallons per day (mgd)) x (concentration in mg/L) x 8.34].
- Composite samples must consist of at least eight grab samples collected at equally spaced intervals and proportionate to flow so that composite samples reflect influent/effluent quality during the compositing period.
- Minimum percent removal = [(average monthly influent concentration in mg/L – average monthly effluent concentration in mg/L) / (average monthly influent concentration in mg/L)] x 100. The monthly average percent removal must be calculated using the arithmetic mean of the influent value and the arithmetic mean of the effluent value for that month. Calculation required monthly
- If more than one FC bacteria sample is collected within a 30-day (monthly) or 7-day (weekly) period, the average result must be reported as the geometric mean. When calculating the geometric mean, replace all results of zero, 0, with a one, 1. The geometric mean of “n” quantities is the “nth” root of the product of the quantities. For example the geometric mean of 100, 200, and 300 is  $(100 \times 200 \times 300)^{1/3} = 181.7$ . See Permit Appendix C for calculation.
- One enterococci bacteria sample shall be collected each month, May through September, on the same day as the FC bacteria sample is collected.
- All metals shall be reported as total recoverable.
- Effluent limits for total residual chlorine are not quantifiable using EPA-approved analytical methods. The permittee will be in compliance with the effluent limits provided the TRC levels are below the compliance evaluation level of 0.05 mg/L.
- If the facility disinfects with chlorine, TRC monitoring frequency is five times per week. If the facility does not chlorinate, TRC sampling is not required.

- 1.2.8 For all effluent monitoring, the permittee must use a sufficiently sensitive Environmental Protection Agency (EPA) approved test method that quantifies the pollutants to a level lower than applicable limits or water quality standards or use the most sensitive test method available, per Title 40 Code of Federal Regulations (CFR) §136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), adopted by reference at 18 AAC 83.010(f).
- 1.2.9 Permittees have the option of taking more frequent samples than are required in the permit. These samples must be used for averaging if they are conducted using approved test methods and if the method detection limit (MDL) is less than or equal to applicable water quality criteria.
- 1.2.10 For purposes of reporting on the discharge monitoring report (DMR) for a single sample, if a value is less than the MDL, the permittee must report "less than [numeric value of MDL]" and if a value is less than a minimum level (ML), the permittee must report "less than [numeric value of ML]."
- 1.2.11 For purposes of calculating a monthly average, zero (0) may be assigned for a value less than the MDL, and the [numeric value of MDL] may be assigned for a value between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than [numeric value of MDL]" and if the average value is less than the ML, the permittee must report "less than [numeric value of ML]." If a value is equal to or greater than the ML, the permittee must report and use that value. The resulting average value must be compared to the compliance level, in assessing compliance.
- 1.2.12 Monthly averages are to be calculated over a calendar month and weekly averages are to be calculated over a time period of Sunday through Saturday.
- 1.2.13 Removal Requirements for BOD<sub>5</sub> and TSS: The monthly average percent removal of BOD<sub>5</sub> and TSS must be reported on the DMR and shall not be less than 85 percent. For each parameter, the monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of effluent values for that month. Influent and effluent samples must be taken over approximately the same period.

### 1.3 Compliance Schedule

- 1.3.1 The permittee must achieve compliance with the final FC bacteria effluent limits in Permit Section 1.2, Table 2 of the permit as soon as possible, but no later than five years after the effective date of the final permit. For the purposes of this permit issuance, with respect to final FC bacteria effluent limits, achieve compliance shall mean:
  - 1.3.1.1 For the monthly average FC effluent limit of 200 FC/100 mL, achieve compliance shall mean not exceeding 200 FC/100 mL for three consecutive months;
  - 1.3.1.2 For the weekly average FC effluent limit of 400 FC/100 mL, achieve compliance shall mean not exceeding 400 FC/100 mL for four consecutive weeks;
  - 1.3.1.3 For the daily maximum FC effluent limit of 800 FC/100 mL, achieve compliance shall mean not exceeding 800 FC/100 mL on any four consecutive samples.
- 1.3.2 As soon as possible but no later than one year after the effective date of the final permit, and annually thereafter, the permittee must submit to DEC an annual report that outlines the progress made towards achieving compliance with the final FC bacteria effluent limits in Permit Section 1.2, Table 2. At a minimum, the annual report must include:

- 1.3.2.1 An assessment of the previous year of effluent data and comparison to the final FC bacteria limits;
- 1.3.2.2 The cause of any reported noncompliance, any remedial actions taken, and a discussion of the likelihood of meeting the next scheduled requirements;
- 1.3.2.3 Detailed discussion on the progress made toward meeting the final FC bacteria effluent limits;
- 1.3.2.4 Detailed discussion on progress made toward completing remaining interim requirements of this compliance schedule;
- 1.3.2.5 Further actions and milestones targeted for the upcoming year.
- 1.3.3 As soon as possible but no later than one year after the effective date of the final permit, if the permittee has not obtained compliance with the final FC bacteria effluent limits, the permittee shall provide a report to the Department, submitted with the annual report of Permit Section 1.3.2, that includes, at a minimum, a summary of the following items:
  - 1.3.3.1 A description of potential upgrades to the wastewater treatment plant that would be required to meet the final FC bacteria effluent limits;
  - 1.3.3.2 Potential sources of funding for identified upgrades.
- 1.3.4 As soon as possible but no later than two years after the effective date of the final permit, if the permittee has not obtained compliance with the final FC bacteria effluent limits, the permittee shall provide a report to the Department, submitted with the annual report of Permit Section 1.3.2, that includes, at a minimum, a summary of the following items:
  - 1.3.4.1 A proposed construction schedule with dates for commencement and completion of construction milestones that would lead to compliance with final FC bacteria effluent limits;
  - 1.3.4.2 A detailed description of funding obtained and future funding deadline requirements;
- 1.3.5 As soon as possible, but no later than three years after the effective date of the final permit, if wastewater treatment plant upgrades are required to meet the final FC bacteria effluent limits, the permittee must submit engineered wastewater treatment facility upgrade plans to the Department's Permitting and Engineering Support and Plan Review (ESPR) Programs.
- 1.3.6 As soon as possible, but no later than four years after the effective date of the final permit, if wastewater treatment plant upgrades are required to meet the final FC bacteria effluent limits, the permittees must commence construction of any necessary facility upgrades.
- 1.3.7 As soon as possible but no later than five years after the effective date of the final permit, if the permittee has not achieved compliance with the final FC bacteria effluent limits and wastewater treatment plant upgrades are required to meet the final FC bacteria effluent limits, the permittee must have completed construction of any necessary facility upgrades, completed startup and optimization of facility upgrade operations, and must achieve compliance with final FC bacteria effluent limits. The permittee must submit a request for Final Approval to Operate as required by the Department's ESPR Program.
- 1.3.8 The permittee must achieve compliance with the final FC bacteria effluent limits in Permit Section 1.2, Table 2 of the permit as soon as possible but no later than **[draft]**.

- 1.3.9 While the compliance schedule is in effect, the permittee must comply with interim FC bacteria effluent limits and monitoring requirements as specified in Table 3.

**Table 3. Interim FC Bacteria Effluent Limits**

| Parameter   | Units     | Effluent Limits      |                      | Monitoring Frequency |                  |             |
|---|-----------|----------------------|----------------------|----------------------|------------------|-------------|
|   |           | Monthly Average      | Daily Maximum        | Sample Location      | Sample Frequency | Sample Type |
| FC Bacteria   | FC/100 mL | 200,000 <sup>a</sup> | 500,000 <sup>b</sup> | Effluent             | 1/Week           | Grab        |
| <b>Footnotes:</b><br>a. If more than one FC bacteria sample is collected within a 30-day (monthly) period, the average result must be reported as the geometric mean. When calculating the geometric mean, replace all results of zero, 0, with a one, 1. The geometric mean of “n” quantities is the “nth” root of the product of the quantities. For example the geometric mean of 100, 200, and 300 is $(100 \times 200 \times 300)^{1/3} = 181.7$ .<br>b. Reporting is required within 24 hours if the daily maximum limit is violated. See Permit Appendix A, Section 3.4.3.3. |           |                      |                      |                      |                  |             |

## 1.4 Additional Monitoring

### 1.4.1 Design Flow Greater Than 0.1 MGD

- 1.4.1.1 In accordance with Alaska Pollutant Discharge Elimination System (APDES) application Form 2A, Section 11, a facility with a design flow greater than 0.1 MGD shall conduct additional effluent monitoring of pollutants during the life of this permit and include the results with the permittee’s reissuance application.
- 1.4.1.2 The permittee shall perform effluent monitoring three times in the first four and one half years of the permit term. Each monitoring event shall be conducted in a different calendar year and in a different season. Seasons are considered to be: winter, December through February; summer, June through August; and spring or fall, March through May or September through November, respectively.
- 1.4.1.3 Monitoring for these parameters performed to satisfy other monitoring requirements of this permit may be used to satisfy this specific monitoring requirement as long as the “different calendar year and season” criteria, as described in Form 2A, are met.
- 1.4.1.4 The permittee is responsible for all submissions and activities required on the application Form 2A even if they are not summarized below in Table 4.

**Table 4: Effluent Additional Monitoring for Reissuance Application**

| Parameter  | Units | Sample Location | Sample Frequency <sup>a</sup> | Sample Type       |
|--|-------|-----------------|-------------------------------|-------------------|
| Oil and Grease   | mg/L  | Effluent        | 3/4.5 years                   | Grab              |
| Total Dissolved Solids   | mg/L  | Effluent        | 3/4.5 years                   | 24-hour composite |
| Total Phosphorus   | mg/L  | Effluent        | 3/4.5 years                   | 24-hour composite |
| Total Kjeldahl Nitrogen  | mg/L  | Effluent        | 3/4.5 years                   | 24-hour composite |
| Nitrate plus Nitrite Nitrogen  | mg/L  | Effluent        | 3/4.5 years                   | 24-hour composite |
| <b>Footnotes:</b><br>a. 3/4.5 years means three samples must be taken within four and one-half years from the effective date of this permit. Each test must be conducted in a different calendar year and different season, including one each in winter (December – February) summer (June – August), and spring or fall (March – May or September – November). |       |                 |                               |                   |



## 1.5 Mixing Zone

- 1.5.1 Until such time as the permittee achieves compliance with the final FC bacteria effluent limits listed in Table 2, the mixing zone authorized in the previous permit for FC bacteria in Woody Island Channel continues to be in effect. The mixing zone is defined as the area of rectangular shape, centered over the diffuser with a total length of 3,200 meters and 400 meters wide. The long axis of the rectangular shaped mixing zone runs parallel to the shoreline. The area extends from the marine bottom to the surface of the water and is oriented with the tidal flow.
- 1.5.2 Five years from the effective date of this permit, or when the permittee demonstrates that they achieve compliance with final FC bacteria effluent limits listed in Table 2, whichever occurs first, the FC mixing zone will be authorized in accordance with Permit Section 1.5.3 through 1.5.5. Achieved compliance shall have the meaning described in Permit Section 1.3.1.
- 1.5.3 In accordance with state regulations at 18 AAC 70.240, as amended through June 26, 2003, a mixing zone for ammonia, WET, DO, FC bacteria, and temperature is authorized in Woody Island Channel for the discharge from Outfall 001.
- 1.5.4 The chronic mixing zone for this discharge for ammonia, DO, FC bacteria, temperature, and WET has a dilution factor of 18.5 and is defined as a rectangle shaped area centered over the diffuser, extending from the seafloor to the sea surface, with a length of 49.6 meters and a width of 83.04 meters. The long axis of the mixing zone runs parallel to the shoreline.
- 1.5.5 The acute mixing zone for this discharge for ammonia has a dilution factor of 2.45 and is defined as the rectangular area centered over the diffuser, extending from the seafloor to the sea surface, with a length of 0.15 meters and a width of 0.4 meters.

## 1.6 Receiving Water Monitoring

The permittee must conduct receiving water monitoring. Receiving water monitoring must start 180 days after the effective date of the permit and continue for the duration of the permit and any administrative extensions of the permit. The program must meet the following requirements:

- 1.6.1 A monitoring station must be established in Woody Island Channel at the following location:
  - 1.6.1.1 A background station at a point representative of the quality of Woody Island Channel, not influenced by the facility's discharge.
  - 1.6.1.2 The permittee must seek written approval of the receiving water monitoring station from DEC prior to commencing receiving water monitoring within 180 days of the effective date of the permit.
- 1.6.2 To the extent practicable, receiving water sample collection must occur on the same day as effluent sample collection.
- 1.6.3 All receiving water samples must be grab samples. Samples must be analyzed for the parameters listed in Table 5.

**Table 5: Receiving Water Monitoring Requirements**

| Parameter  | Units          | Frequency                                 | Sample Type |
|--|----------------|---|-------------|
| Total Ammonia as N   | mg/L           | Two Samples<br>(May-October) <sup>a</sup> | Grab        |
| Copper   | µg/L           |   |             |
| pH   | SU             |   |             |
| Salinity   | grams/kilogram |   |             |
| Temperature  | °C             |   | Measurement |
| <u>Footnotes:</u><br>a. Two samples (May-October) means one sample must be taken in the months of May - July and one sample in the months of August – October. |                |   |             |

- 1.6.4 Quality assurance/quality control plans for all receiving water monitoring must be documented in the Quality Assurance Project Plan required under Permit Section 2.1., “Quality Assurance Project Plan”.
- 1.6.5 For receiving water monitoring, the permittee must use a sufficiently sensitive EPA approved test method that quantifies the level of pollutants to a level lower than applicable limits or water quality standards or use the most sensitive test method available per Title 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), adopted by reference at 18 AAC 83.010(f).
- 1.6.6 Receiving water monitoring results must be submitted to DEC as an attachment to the eDMR for the month following sample collection. At a minimum, the report must include:
- 1.6.6.1 Sample location;
  - 1.6.6.2 The effluent flow rate must be reported with the receiving water test results as near as practicable to the time the receiving water parameters are sampled.
  - 1.6.6.3 Dates of sample collection and analyses;
  - 1.6.6.4 Results of sample analyses; and
  - 1.6.6.5 Relevant quality assurance/quality control (QA/QC) information.

## 1.7 Whole Effluent Toxicity

- 1.7.1 The permittee shall conduct annual chronic toxicity tests on effluent samples from Outfall 001. Testing shall be conducted in accordance with Parts 1.7.1 through 1.7.6.
- 1.7.2 The permittee must conduct WET tests on 24-hour composite effluent samples using one vertebrate and one invertebrate species as follows:
- 1.7.2.1 Vertebrate (survival and growth): *Atherinops affinis* (Topsmelt). In the event that topsmelt is not available, *Menidia beryllina* (inland silverside) may be used as a substitute. The permittee shall document the substitute species in the DMR following the testing.
  - 1.7.2.2 Invertebrate: For larval development tests, the permittee must use the bivalve species *Crassostrea gigas* (Pacific oyster) or *Mytilis spp.* (mussel).
  - 1.7.2.3 Results must be reported in TU<sub>c</sub> (toxic units, chronic) where TU<sub>c</sub> = 100/No Observed Effect Concentration (NOEC).

- 1.7.2.4 Toxicity testing on each organism must include a series of five test dilutions and a control. This dilution series shall consist of effluent concentrations of 21.6%, 10.8%, 5.4%, 2.7%, 1.4% and a control.
- 1.7.2.5 There are no chronic toxicity effluent limits for this discharge, the chronic WET trigger value is 18.5 TU<sub>c</sub>. Accelerated toxicity testing (See Permit Section 1.7.3) is required if this chronic WET trigger is exceeded.

### 1.7.3 Quality Assurance

- 1.7.3.1 All quality assurance criteria and statistical analyses used for chronic tests and reference toxicant tests must be in accordance with USEPA *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition*, (EPA-821-R-02-014). For the bivalve species, chronic toxicity must be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136), adopted by reference in 18 AAC 70.030.
- 1.7.3.2 In addition to those quality assurance measures specified in the methodology, the following quality assurance procedures must be implemented:
  - 1.7.3.2.1 The permittee shall make every effort to have the toxicity tests initiated within thirty-six hours of sample collection. If this is not possible, the permittee must document that the delivery time cannot be met. In no case should more than seventy-two hours elapse between sample collection and use of the sample. The sample must be held at 0-6 °C, from sample collection until test preparation.
  - 1.7.3.2.2 If organisms are not cultured in-house, concurrent testing with reference toxicants must be conducted. If organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests must be conducted using the same test conditions as the effluent toxicity tests.
  - 1.7.3.2.3 If either one of the reference toxicant tests or the effluent tests does not meet all test acceptability criteria as specified in the test methods manual, the permittee must re-sample and re-test within 14 days of receipt of the test results.
  - 1.7.3.2.4 Control and lab dilution water must be collected from the receiving water or lab water, as appropriate and as described in the manual. If the dilution water used is different from the culture water, a second control, using culture water, must also be used. Receiving water may be used as control and dilution water upon notification and approval of DEC. In no case shall water that has not met test acceptability criteria be used for either dilution or control.

1.7.4 Accelerated testing.

1.7.4.1 Initial investigation: If the permittee demonstrates through an evaluation of facility operations that the cause of an exceedance is known and corrective actions have been implemented, only one accelerated test is necessary. If toxicity exceeding the chronic toxicity trigger in Permit Section 1.7.1.9 is detected in this test, then the Toxicity Reduction Evaluation (TRE) requirements in Permit Section 1.7.4 shall apply. If chronic toxicity is detected above the trigger, and no initial investigation is conducted or no cause is determined by an initial investigation, then the permittee must conduct two more biweekly tests over a four week period. This accelerated testing must be initiated within two weeks of receipt of the test results that indicate exceedance.

1.7.4.2 The permittee must notify DEC of the exceedance in writing within two weeks of receipt of the test results. The notification must include the following information:

1.7.4.2.1 A status report on any actions required by the permit, with a schedule for actions not yet completed;

1.7.4.2.2 A description of any additional actions the permittee has taken or will take to investigate and correct the cause(s) of the toxicity, and;

1.7.4.2.3 Where no actions have been taken, a discussion of the reasons for taking no action;

1.7.4.3 If none of the two accelerated tests exceed the toxicity trigger, the permittee may return to the normal testing frequency. If any of the two accelerated tests exceed the chronic toxicity trigger, then the TRE requirements of Permit Section 1.7.4, shall apply.

1.7.5 Toxicity Reduction Evaluation and Toxicity Identification Evaluation.

1.7.5.1 If the chronic toxicity trigger is exceeded during accelerated testing (Permit Section 1.7.3), the permittee must initiate a TRE in accordance with *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)* (EPA/600/2-88/070 April 1989), within two weeks of the receipt of the test results showing an exceedance. At a minimum, the TRE must include:

1.7.5.1.1 Further actions to investigate and identify the cause of toxicity;

1.7.5.1.2 Actions the permittee will take to mitigate the impact of the discharge and to prevent recurrence of toxicity; and

1.7.5.1.3 A schedule for these actions.

1.7.6 The permittee may initiate a Toxicity Identification Evaluation (TIE) as part of the TRE process. Any TIE must be performed in accordance with EPA guidance manuals: *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-096-054, 1996); *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F, 1992); *Methods for Aquatic Toxicity Identification Evaluations Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III: Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA-600/R-92/081, 1993).

#### 1.7.7 Reporting

- 1.7.7.1 The permittee shall submit a full report of chronic WET test results with the monthly DMR following the receipt of the test results.
- 1.7.7.2 The permittee shall submit results of any accelerated testing, under Permit Section 1.7.3, within two weeks of receipt of results from the laboratory. The full report must be submitted within four weeks of receipt of results from the laboratory. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, the result of the investigation must be submitted with the DMR for the month following completion of the investigation.
- 1.7.7.3 The toxicity test report must include all relevant information outlined in USEPA *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, Third Edition (EPA-821-R-02-014). For the bivalve species, chronic toxicity must be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136).
- 1.7.7.4 In addition to toxicity test results, the permittees must report: dates of sample collection and initiation of each test; the toxicity triggers as defined in Permit Section 1.7.1.8; and effluent flow rate at the time of sample collection.

## 2.0 SPECIAL CONDITIONS

### 2.1 Quality Assurance Project Plan

- 2.1.1 The permittee must develop and implement a quality assurance project plan (QAPP) for all monitoring required by this permit. The permittee is required to submit the QAPP for review and approval within 120 days of the effective date of this permit. All procedures in the previous QAPP must be followed until the new QAPP has been implemented. Any existing QAPP may be modified under this Section.
- 2.1.2 The QAPP must be designed to assist in planning for the collection and analysis of all effluent and receiving water samples in support of the permit and to help explain data anomalies whenever they occur.
- 2.1.3 The permittee may use either the generic DEC *Wastewater Treatment Facility Quality Assurance Project Plan* (DEC QAPP) or must develop a facility-specific QAPP. Some facility specific information is required to complete the QAPP when using the generic DEC QAPP.
- 2.1.4 Throughout all sample collection and analysis activities, the permittee must use DEC-approved QA/QC and chain-of-custody procedures, as described in the *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAPP must be prepared in the format specified in these documents.
- 2.1.5 At a minimum, a QAPP must include:
  - 2.1.5.1 Details on number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;

- 2.1.5.2 Maps indicating the location of each sampling point;
- 2.1.5.3 Qualification and training of personnel; and
- 2.1.5.4 Name, address, and telephone number of all laboratories used by or proposed to be used by the permittee.
- 2.1.6 The permittee must amend the QAPP whenever sample collection, sample analysis, or other procedure addressed by the QAPP is modified.
- 2.1.7 Copies of the QAPP must be kept on site and made available to DEC upon request.

## **2.2 Industrial User Survey**

- 2.2.1 An industrial user survey report of those industries that discharge and/or have the potential to discharge non-domestic wastewater to the City of Kodiak's WWTF collection system must be submitted with Form 2A when applying for permit reissuance. At a minimum, the survey report must contain the following:
  - 2.2.1.1 The Industry name, contact person, address, and telephone number;
  - 2.2.1.2 The Standard Industrial Classification (SIC) <http://siccode.com/en/siccode/list/directory> or North American Industry Classification System (NAICS) <http://www.naics.com/complete-naics-business-resource-list/> code(s) for each activity type;
  - 2.2.1.3 A description of the non-domestic process including products manufactured of services performed and potential pollutants;
  - 2.2.1.4 An estimate of non-domestic wastewater discharged into the facility's wastewater treatment collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent; and
  - 2.2.1.5 An estimate of domestic wastewater discharged into the facility's treatment collection system in gpd and whether the discharge is continuous or intermittent.
- 2.2.2 Those industries that are not connected to the collection system or that solely discharge domestic wastewater to the collection system are not considered sources of non-domestic wastewater and may be excluded from the industrial user survey report.

## **2.3 Operation and Maintenance Plan**

- 2.3.1 In addition to requirements specified in Appendix A, Part 1.6 of this permit [Proper Operation and Maintenance (O&M)], the permittee shall develop and implement an O&M Plan for the wastewater treatment facility. The permittee must submit written notice to DEC that the plan has been developed and implemented within 120 days of the effective date of this permit. All procedures in the previous O&M Plan must be followed until the new O&M Plan has been implemented. Any existing O&M Plan may be modified under this Part. The plan shall be retained on site and made available to DEC upon request.
- 2.3.2 The permittee shall ensure that the O&M Plan includes appropriate best management practices (BMPs), and the plan must be reviewed annually. BMPs include measures that prevent or minimize the potential for the release of pollutants to Woody Island Channel. Documentation of annual O&M Plan review by the permittee shall be retained on-site and made available to DEC upon request.

- 2.3.3 The permittee shall develop a description of pollution prevention measures and controls appropriate for the facility. The appropriateness and priorities of controls in the O&M plan shall reflect identified potential sources of pollutants at the facility. The description of BMPs shall address, to the extent practicable, the following minimum components:
- 2.3.3.1 Spill prevention and control;
  - 2.3.3.2 Optimization of chemical usage;
  - 2.3.3.3 Preventative maintenance program;
  - 2.3.3.4 Minimization of pollutant inputs from industrial users;
  - 2.3.3.5 Research, development, and implementation of a public information and education program to control the introduction of household hazardous materials to the sewer system; and,
  - 2.3.3.6 Water conservation.
- 2.3.4 The permittee's facility operators must be certified in accordance with the provisions of 18 AAC 74.

## 2.4 Facility Planning Requirement

- 2.4.1 The 85<sup>th</sup> percentile of the design criteria for the permitted facility are as depicted in Table 6.

**Table 6: 85th Percentile of Facility Design Criteria**

| Criteria                          | Value | Units   |
|-----------------------------------|-------|---------|
| Average Annual Flow               | 3.14  | mgd     |
| Influent BOD <sub>5</sub> Loading | 2,814 | lbs/day |
| Influent TSS Loading              | 3,485 |         |

- 2.4.2 Each month, the permittee must compute an annual average value for the flow, BOD<sub>5</sub> loading, and TSS loading entering the facility based on the previous 12 months of data. These values shall be summarized and reported as an attachment to the application for permit reissuance.
- 2.4.3 If the facility has completed a plant upgrade that affects the facility planning values listed in Table 7, only data collected after the upgrade should be used to determine the annual average value.
- 2.4.4 When the annual average values exceed the 85<sup>th</sup> percentile facility planning values listed in Table 6, the permittee must report the exceedance in writing to DEC within 30 days of becoming aware of the exceedance.
- 2.4.5 When the annual average values exceed the 85<sup>th</sup> percentile facility planning values listed in Table 6, the permittee must develop a facility plan within one year of the first exceedance. The facility plan must include a schedule to come into compliance with the design criteria. The plan must include the permittee's strategy for continuing to maintain compliance with effluent limits and must be submitted to DEC for review.

## **2.5 Electronic Reporting (E-Reporting) Rule**

### **2.5.1 E-Reporting Rule for DMRs (Phase I).**

The permittee must submit DMR data electronically through NetDMR per Phase I of the E-Reporting Rule (40 CFR 127) upon the effective date of the Permit. Authorized persons may access permit information by logging into the NetDMR Portal (<https://cdxnodengn.epa.gov/oeca-netdmr-web/action/login>). DMRs submitted in compliance with the E-Reporting Rule are not required to be submitted as described in Appendix A – Standard Conditions unless requested or approved by the Department. Any DMR data required by the Permit that cannot be reported in a NetDMR field (e.g. mixing zone receiving water data, etc), shall be included as an attachment to the NetDMR submittal. DEC has established an e-Reporting Information website at <http://dec.alaska.gov/water/Compliance/EReportingRule.htm> that contains general information about this new reporting format. Training materials and webinars for NetDMR can be found at <https://netdmr.zendesk.com/home>.

### **2.5.2 E-Reporting Rule for Other Reports (Phase II).**

Phase II of the E-Reporting rule will integrate electronic reporting for all other reports required by the Permit (e.g., Annual Reports and Certifications) and implementation is expected to begin December 2020. Permittees should monitor DEC's E-Reporting Information website (<http://dec.alaska.gov/water/Compliance/EReportingRule.htm>) for updates on Phase II of the E-Reporting Rule and will be notified when they must begin submitting all other reports electronically. Until such time, other reports required by the Permit may be submitted in accordance with Appendix A – Standard Conditions.

## **2.6 Identification Sign(s)**

The permittee shall continue to post a sign or signs on the shoreline adjacent to the discharge point that indicate the name and contact number for the facility, the permit number, the type of discharge (treated domestic wastewater), and the approximate location and size of the mixing zone. This sign shall be updated at the completion of the compliance schedule to reflect the new mixing zone dimensions. The sign(s) should inform the public that certain activities, such as harvesting of aquatic life for raw consumption, should not take place in the mixing zone.

## **2.7 Removed Substances**

Collected screenings, grit, solids, scum, and other facility residuals, or other pollutants removed in the course of treatment or control of water and wastewaters shall be disposed of in a Department approved manner and method in accordance with 18 AAC 60, such as to prevent any pollution from such materials from entering navigable waters.